

**WHAT IS CLAIMED IS:**

1. A bearing unit for a wheel, comprising:

a stationary ring having a stationary-side raceway surface provided at a stationary-side periphery thereof, and fixedly supported by a suspending apparatus under a condition of being used;

a rotary ring having a rotary side-raceway surface provided at the rotary side-periphery thereof and hardened by a heat treatment;

a plurality of rolling elements provided between the rotary side-raceway surface and the stationary-side raceway surface;

a mounting flange provided at the outer periphery of the rotary ring, for fixedly connecting a rotary body for braking and a wheel to a mounting surface which is one side surface thereof under a condition of being used, said mounting flange having plural mounting holes communicating between the one side surface and the other side surface; and

a plurality of studs, each of which has a distal end protruded from the mounting surface under a condition where the respective base portions thereof are press-fitted into plural mounting holes of the mounting flange, wherein the mounting surface of the mounting flange defines a flat surface with a substantially constant surface precision by processing into a predetermined shape, after the rotary side-raceway surface thereof is heat-treated, and the base portion of each stud is fixedly press-fitted into the mounting hole,

wherein the mounting flange is formed with a concave portion all over the periphery thereof at an intermediate portion in a circumferential direction thereof, and each of the mounting holes opens within the concave portion at one end thereof in the axial direction.